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(New) A nucleic acid according to claim 49, further comprising a transcriptional regulatory sequence operably linked to said nucleotide sequence.

53. (New) An expression vector, capable of replicating in at least one of a prokaryotic cell and eukaryotic cell, comprising the nucleic acid of claim 51.

54. (New) A host cell transfected with the expression vector of claim 51.

- 55. (New) A transgenic animal having a transgene of the nucleic acid of claim 49 incorporated in cells thereof.
- 56. (New) An isolated polypeptide comprising the amino acid sequence of SEQ ID No. 17 or a fragment thereof which binds *ptc*.
- 57. (New) The polypeptide of claim 56, wherein the fragment includes at least 25 contiguous amino acids of SEQ ID No. 17
- 58. (New) The polypeptide of claim 56, wherein the fragment is an N-terminal fragment having a molecular weight of about 19 kD
- 59. (New) A pharmaceutical preparation comprising the polypeptide of claim 56 and a pharmaceutically acceptable excipient.
- 60. (New) An antibody immunoreactive with a polypeptide of claim 56.
- 61. (New) A method for determining the presence or absence of a *hedgehog* polypeptide including an amino acid sequence of SEQ ID No. 17 in a sample of bodily fluid,